A. Fatigue is intentional cycling of a piece of steel. And running it through positive-negative stress cycles, which degrades the microstructure.
Q. And what can that ultimately result in?
A. A leak.
Q. And TransCanada you said chose to put that pipe in the ground on the base Keystone segment in Canada; correct?
A. Well, you've got to admit we didn't buy the cracked pipe.
Q. Well, I guess that's a little more responsible, wouldn't you say?
A. I was impressed.
Q. Okay. Let's move from the base Keystone project to the Bison. And I think we can go through that pretty quick.
What was the scope of work that you had on the Bison Project?
A. We were asked for some opinions on the -- on the -- not the front end design but the front end inspection designs. And we were trying to promote doing a quality job so we thought we'd show people what kind of a beautiful pipeline we could build here in the United States.
And so we went and convinced the project that we

would do 100 percent automated ultrasonic testing which had never been done in the United States like all the way through so it was actually really shaping up to be a nice project.

And then what happened was is the quality manager decided that he was going to handle the outsourced inspection all by himself.

Q. What was the quality manager on the Bison Project?

A. Oh, what was his name?

Q. But he was a TransCanada employee; correct?

A. No. He was a contractor.

Q. Contractor.

A. Most of these pipeline staff are contractors. Very few of them are direct hires, except for senior project managers and that sort of thing like that.

Q. Oh, so TransCanada does a lot of outsourcing then of the various functions it has when it builds a pipeline?

A. That's correct.

Q. Okay. So let me jump back then. What specifically was your role on the Bison Project? What were you there to do?

A. Well, for a few months I did very little with them. I went and gave them some designs for automated ultrasonic testing calibration blocks that they could approximate. And so they went and made and qualified the

blocks with a -- with an external contractor.

And that external contractor, they went and sent the scans to me, but I never opened the RTD system. The only thing I could tell is we went and have -- the right number of holes for the calibration blocks but there was some other things that were wrong.

Q. You're getting pretty deep into the weeds there on the technical detail. Just try to stay a little more high level.

A. So we never really heard from the project again until October when --

Q. October of what year?

A. 2010. Until we went and got the e-mail that the project was in deep trouble, and we went and heard that the quality management team had some dismissals. We never did find out what the nature of the dismissals was, but I was required to --

Q. Okay. Stop right there. You said you received some sort of communication that the project was in deep trouble.

A. That's correct.

Q. What do you mean by that?

A. He said deep trouble in the e-mail, if I remember rightly.

Q. Okay. Did you find out what the nature of that deep

trouble was?
A. I certainly did when I went and got to site.
Q. What did you find when you got to site?
A. I went and walked out the door to the airport, and I was told my job was to fire the AT contractor.
Q. Who told you that?
A. Claude Albere [phonetic].
Q. Okay. Did you fire that contractor?
A. No. Because that would be a huge risk for TransCanada to fire a contractor like that.
Q. Okay. So you got at the airport. You were told you've got to fire these folks. Ultimately, a decision was made not to fire them.

What happened next when you actually went out to site, and what exactly did you find that was the problem? Can we maybe try to be real succinct here for the Commissioners?
A. The welding was shocking when we drove on the site. I had never seen welds humped up that much -- the technical term is not much reinforcement on the welds.

And there's recommended guidelines in the code about how high that reinforcement should be, and we were well beyond that level of reinforcement.
Q. I mean, I guess to an untrained person if you have extra reinforcement on a weld, it sounds like that's a

good thing.
A. If you're using radiography to inspect a pipeline and you're using plaque (check) type penetrameters, this is a classic welder trick. They put on extra reinforcement at the cap so that you can't see the root.
We had got the project to use the new version of the API 20th -- or 1104, 20th Edition, which only allowed wire penetrameters to be used for radiography quality.
Q. So why was this a problem, Mr. Vokes?
A. When you put excessive reinforcement on the caps you can no longer use the wire penetrameters.
Q. So are you telling us then essentially that that posed a problem for you when you were actually trying to inspect the welds and check their integrity; is that correct?
A. Well, it was a different problem. The reason why is because we were planning on using automated ultrasonic testing for the welds. And what the welders were trying to force us to do was to go to radiography, but what they had done was by doing all of that excessive reinforcement we had to stay using automated ultrasonic testing.
We had hundreds and hundreds of welds completed on the pipeline. The ditch was dug and open, and the pipe was sitting uncoated on top of the ditch waiting to go into the ditch but couldn't go in because they couldn't

accept the welds.
Q. What other problems did you find there on the site?
A. Well, we had some problems with the automated ultrasonic testing. There was no doubt about that. The calibrations were really hard for the technician to set up the equipment.

He was having a lot of problems getting the equipment to run. He was getting valid scans, but the -- but getting the -- the -- I was talking earlier about how pipe lining is a manufacturing process, and it's designed to run a three-minute cycle time. So every operation you want to be about a three-minute cycle time.

And when you --
Q. Can you stop there, Mr. Vokes.
A. Sure.
Q. I understand that we've got a tremendous amount of information and knowledge that you have, but let's try to keep it kind of focused on a high level here.

There were some problems that you found in terms of your abilities as one of TransCanada's in-house engineers to actually check on and make sure that the welding was being done correctly.

Is that a fair statement?
A. My job there was to make sure that the automated ultrasonic testing was being done correctly.

Q. And that's part of the inspection process; is that correct?
A. That's correct, yes.
Q. Okay. And so did you find out that there were problems with that that impeded the inspection process?
A. That's correct. And they were problems that we could deal with.
Q. Okay. So what did you do in terms of reporting this to TransCanada's management?
A. There were several letters and e-mails that had gone to the project at this point in time.
Q. The project manager, do you mean?
A. Actually I didn't realize it was, but there was actually a director of pipeline -- what the heck was his name?
Q. Doesn't matter. Ultimately you did report the problems that you were encountering to the senior project managers.
A. Oh, absolutely.
Q. Okay. And what was the response then that you obtained from TransCanada's management?
A. Well, it seemed like they wanted to work with us to solve the problems, but then they went and asked us to go to another spread we had never been to. We had heard a rumor about the auditor had no idea what he was doing.

Q. What do you mean by the auditor? Who is the auditor you're referring to?
A. The automated ultrasonic testing auditor. And, in fact, it turns out that the auditor was actually a radiography technician who had no idea what he was looking at in the scans.
Q. So you were called there to essentially help solve that problem; correct?
A. Well, they asked us to go see if this guy knew what he was doing, and he did not know what he was doing. And what had happened was even more disturbing because the AUT company's supervisor, to deal with the problems he was having he cut the gate short, which means that the pulse echo beams weren't reaching all the way to the root of the weld. And so what it went and did was gave him an artificially low repair rate.
Q. Okay. And what exactly -- what was the effect of that then on the pipeline that's being laid in the ground?
A. There was about 12 or 1,300 welds that never actually had a code inspection. So that means the code -- we could argue that, you know, like that it -- that it met the -- that it was safe to operate, but truly did we actually meet the intent of the code?
No. We did not actually meet the intent of the code

because we never fully examined the root of the weld.
Q. And you reported this problem to project managers?
A. That's correct.
Q. Okay. Did TransCanada then -- after knowing that there was a problem did they go ahead and lay the pipe in the ground anyway?
A. That pipe was already in the ground.
Q. Oh. Did they do anything to go back, dig it up, and fix it?
A. Well, what went and happened was an argument about whether or not there was a problem with the automated ultrasonic testing.

So, once again, we engaged the industry expert Dave Hodgkinson. And Dave Hodgkinson went and told the project that they needed to report to PHMSA, and RTE needed to take responsibility for their weld inspection.
Q. Do you know then if a report was actually made to PHMSA?
A. No. But the letter went and said nobody from TransCanada should accept these welds.
Q. So nobody should accept these welds. Did they accept them in the end?
A. We went and did the quick dig up of what was supposed to be a worst-case weld, and we reexamined it and found it was fine and buried it.

Q. Oh. So did they do any additional sampling to see if there were any other defects along that line --
A. No.
Q. -- where there were inadequate inspections?
A. No.
Q. Okay. So ultimately the Bison Project was built and put in the ground; correct?
A. That's correct.
Q. And it went operational?
A. It went operational.
Q. Did problems arise with the Bison Project subsequent to it becoming operational?
A. Yes. The problems that arose after that was there was dents associated with welds on the Bison Project. And PHMSA was very concerned about the dents in the welds. And we were asked if we could determine whether or not the dents were actually associated with the welds.

And so we looked at a series of the welds on PHMSA's behalf and what we went and looked at was we went and looked at the long seam lines to see if the long seam lines -- because you could see -- with the automated ultrasonic testing a lot of times you can see it bump over the long seams and so you can actually tell relative where the dent is and where the seam is.

So we wrote three rejection letters to the project

saying that we could not support their case to tell PHMSA that it was okay to operate those dents.
Q. Okay. So what happened next? What did TransCanada report back to PHMSA then?
A. I don't know what TransCanada supported -- reported back to PHMSA. Only thing I knew was my manager went and corralled me a couple of times to tell me how disappointed he was with my performance.
Q. What discussions did you have with him about your performance?
A. There was oral discussions about he couldn't believe that it was a member of his team that was creating the project trouble.
Q. And what do you mean by "creating the project trouble"?
A. Well, we weren't helping the project out.
Q. What did he mean by that?
A. What did he mean by that? He wanted the -- he wanted us to slip it on by, like the rest of everything was done. Just participate.
Q. Participate. And was it from your perspective then ignoring the requirements of the code --
A. Ignoring --
Q. -- and putting pipeline -- hold on. Let me ask the question before you answer it.

So was it your understanding then that you were being told or your manager said I'm disappointed in you because you're not going along with us and -- by going ahead and just putting all of this pipe into the ground when we have a pretty good idea that it's not up to code?

MR. WHITE: Objection to the form of the question. If Mr. Martinez could ask a question rather than provide an answer, that would be helpful.

MR. SMITH: I think on direct that's pretty leading.

MR. MARTINEZ: Pretty leading?

MR. SMITH: Uh-huh. I'm going to sustain.

MR. MARTINEZ: Fair enough. I'll go ahead and reask that in a different way and rephrase.

Q. So you've testified that your manager came and said he had performance issues with you; correct?

A. That's correct.

Q. Okay. And what was your understanding of the performance issue?

A. The performance issue wasn't technically based. It was behavior based because I would not agree with his interpretation of how pipeline should be built.

Q. Okay. And in your -- from your perspective did you believe that the pipeline was being constructed in a way

that did not meet code?
A. Correct. And it was well-known that I objected to it because Mr. Taylor liked to give me heck because he didn't like the fact that I discussed all the projects with people and what was going on.
The day that Bison blew up Richard Kanya sent me an e-mail right away and said, Evan, Bison blew up tonight. So everybody knew that I had a problem.
Q. Okay. So based on what you've just told us, is it your understanding that TransCanada effectively wished that you would ignore regulatory violations?
MR. WHITE: Same objection.
MR. MARTINEZ: I'm asking what Mr. Vokes believes based on the interactions that he's had. I'm certainly entitled to ask him that.
MR. SMITH: Pardon me? Overruled.
Q. Please answer the question.
A. I think that -- can I answer with an example?
Q. Just please answer the question.
A. We had a team meeting with Jim --
Q. Hold on, Mr. Vokes.
What I asked you was is it your belief and understanding based on the communications and interactions that you had with your fellow employees at TransCanada that you were basically being asked to ignore

regulatory violations in order to get the pipeline in the ground?

MR. WHITE: The witness was asked to answer the question. Now Mr. Martinez is reformulating the answer in the form that he wants and asking the witness to say yes or no to it. That's leading.

MR. MARTINEZ: I've laid a foundation for that question.

A. Senior management at TransCanada --

MR. WHITE: There's an objection pending.

MR. MARTINEZ: An objection's pending, Mr. Vokes. Please wait until --

COMMISSIONER HANSON: It's sustained. You're leading.

MR. SMITH: Okay. It's -- although, like you said, you came awful close to having a foundation, I think, for that.

But we'll sustain it, and maybe you can just do it through -- without the conclusion in there.

MR. MARTINEZ: Well, we're ultimately getting to the conclusion.

Q. Were you asked by TransCanada management to ignore regulatory violations?

A. More than once. Many times.

Q. Now you've testified that at some point, in using

your words, the Bison Pipeline blew up.
A. Correct.
Q. Do you have any understanding of how that occurred or why it occurred?
A. Yes. Richard Kanya went and showed me the pictures. And you can clearly see that what happened was is that the pipe was struck with a shading bucket, which uses a smooth piece of steel, four times in one mile.
Q. Is that something that may have been uncovered with thorough inspections?
A. The interesting thing is we don't generally pay contractors unless we have an inspector present.
Q. Do you know if an inspector was present when those segments of pipe were being laid?
A. Only TransCanada could produce those documents.
MR. MARTINEZ: I'm probably concluded with a major segment here. Should we kind of go ahead and continue to the next segment, or do you wish to break for the evening?
(Discussion off the record)
MR. MARTINEZ: I'm thinking just in terms of the flow and just sort of the subject groupings. It might make sense to, you know, break because we're at the end of sort of this particular subject matter.
And after this I really have, you know, just one